



Euroopa Liit
Euroopa Sotsiaalfond



Eesti tuleviku heaks

9th International Symposium **Pärnu 2010** *Summer School*

“Topical Problems in the Field of Electrical and Power Engineering”

and

“Doctoral School of Energy and Geotechnology II”



TTÜ 1918



Symposium and Doctoral School Schedule
Pärnu, Estonia
14.-19.06.2010

Begin	End	Type of activity	Names of Persons	Organisation
		Monday, 14.06.2010 Morning		
		Chairman: Prof. Juhan Laugis		
8.00		Bus departure from Rävåla pst 13, Tallinn		
8.15		Bus departure from Hotell Mihkli, Endla 23, Tallinn		
8.30		Bus departure from Tallinn University of Technology, Ehitajate tee 5, Tallinn		
10.30		Arrival to Pärnu Tervis SPA Hotel		
10.30	13.00	Accommodation in Pärnu Tervis SPA Hotel		
13.00	14.00	Lunch		
		Monday, 14.06.2010 Afternoon		
13.30	14.00	Registration of participants	Chairman: Dr. Dmitri Vinnikov	Tallinn University of Technology
14.00	14.30	Official Opening of Symposium and Doctoral School	Chairman: Prof. Johannes Steinbrunn	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis		
14.00	14.20	Tallinn University of Technology today	Peep Sürje, TUT Rector	Tallinn University of Technology
14.20	14.30	Film presentation about Doctoral School of Energy and Geotechnology	Prof. Juhan Laugis	Tallinn University of Technology
14.30	16.00	Invited lecture	Chairman: Prof. Johannes Steinbrunn	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis		
14.30	16.00	Latest Developments in Lightning and Overvoltage Protection with respect to EMC	Dipl. Ing. Peter Respondek	DEHN + SOEHNE, Neumarkt Germany, BUSSYSTEME, Berlin, Germany Industrial Electrix, ATP Publications, Brisbane, Australia
16.00	16.30	Coffee break		
16.30	18.00	Defence of PhD thesis in the field of Power Electronics	Chairman: Prof. Juhan Laugis	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis		
16.30	18.00	Research and Development of High-Power High-Voltage DC/DC Converters	Ph.D. student Tanel Jalakas Supervisors: Dr. Dmitri Vinnikov, Prof. Tõnu Lehtla; Opponents: Prof. Johannes Steinbrunn (Germany), Prof. Leonids Ribickis (Latvia)	Tallinn University of Technology
18.00	20.00	Free time		
20.00	22.00	Welcome Coctail and Dinner	Chairman: Prof. Juhan Laugis	
		Place: Buffet Room, 1st floor of Building 1 of SPA Tervis		
Begin	End	Type of activity	Names of Persons	Organisation
		Tuesday, 15.06.2010 Morning		
6.30	9.00	Morning Gymnastics, Sauna and Breakfast		
9.00	11.15	Invited lectures	Chairman: Dipl. Ing. Peter Respondek	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis		
9.00	10.30	Smart Metering, Smart Buildings, Smart Grid: Three steps towards the EU 2020 Requirements for Energy Savings	Dipl. Ing. Peter Respondek	DEHN + SOEHNE, Neumarkt Germany, BUSSYSTEME, Berlin, Germany Industrial Electrix, ATP Publications, Brisbane, Australia
10.30	11.15	Mathematical Model for M-phases Switched Reluctance Motor	Prof. Vasyl Tkachuk	Lviv Polytechnic National University
12.00	14.00	Lunch and free time		

		Tuesday, 15.06.2010 Afternoon		
14.00	16.00	Regular papers. Topic: Power Electronics	Chairman: Prof. Ilya Galkin	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis	Co-chairman: M.Sc. Andrei Blinov	
14.00	14.20	Using DSP TMS320F2812 for generation of sinusoidal PWM for voltage source inverter	Silver Ott, Indrek Roasto	Tallinn University of Technology
14.20	14.40	Transient Analysis of High-Voltage Half-Bridge Inverter During Freewheeling States	Andrei Blinov, Tanel Jalakas, Dmitri Vinnikov, Kuno Janson	Tallinn University of Technology
14.40	15.00	The single-phase AC regulator on base of bidirectional IGBT switches	Vladimirs Cimanis, Vladimirs Hramcovs, Ivars Rankis	Riga Technical University
15.00	15.20	Evaluation of converter and battery for electric kart	Kristaps Vitols, Nadav Reinberg, Ilya Galkin	Riga Technical University
15.20	15.40	Choice of inverter for Uninterruptable Power Supply System	Andrew Stepanov, Ilya Galkin	Riga Technical University
15.40	16.00	Estimation of converter topologies for small wind turbine energy conversion	Lauris Bisenieks, Ilya Galkin	Riga Technical University
16.00	16.20	<i>Coffee break</i>		
16.20	18.00	Regular papers. Topic: Electrical Drives and Electrotechnology	Chairman: Assoc. Prof. Elmo Pettai	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis	Co-chairman: M.Sc. Mikhail Egorov	
16.20	16.40	Influence of variable energy flow on power characteristics	Viktor Beldjajev, Heigo Mölder, Tõnu Lehtla	Tallinn University of Technology
16.40	17.00	Variant Management in Vehicle Electric and Electronic Hardware Architectures	Davis Meike, Oskars Krievs	Riga Technical University
17.00	17.20	Short-Circuit Wave Transient Measurements in HV Power Network	Lauri Kütt, Jako Kilter, Ivo Palu	Tallinn University of Technology
17.20	17.40	Analysis on AC Motor Losses due to Harmonic Levels Increase Caused by Switched Capacitor Passive Power Factor Correction	Heigo Mölder, Toomas Vinnal, Viktor Beldjajev	Tallinn University of Technology
17.40	18.00	Harmonic Voltages and Currents in LV Industrial Power Systems and Harmonic Losses	Toomas Vinnal, Kuno Janson, Heljut Kalda	Tallinn University of Technology
18.00	19.00	<i>Dinner</i>		
19.30	23.00	Social Session	Chairman: Viktor Beldjajev	
		Place: To be specified during Symposium	Co-chairman: Andrei Blinov	
Begin	End	Type of activity	Names of Persons	Organisation
		Wednesday, 16.06.2010 Morning		
6.30	9.00	<i>Morning Gymnastics, Sauna and Breakfast</i>		
9.00	12.00	Invited lectures	Chairman: Prof. Johannes Steinbrunn	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis		
9.00	10.30	System Integration for High Power Density Power Electronics	Dr. Jelena Popovic-Gerber	Delft University of Technology
10.30	12.00	Rhetorical conventions and stylistic practices in science writing	Mare-Anne Laane	Tallinn University of Technology
12.00	14.00	<i>Lunch and free time</i>		
		Wednesday, 16.06.2010 Afternoon		
14.00	16.20	Regular papers. Topic: Mining and Geotechnology	Chairman: Prof. Ingo Valgma	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis	Co-chairman: M.Sc. Julia Gulevičs	
14.00	14.20	The geological perspectives for Paleozoic carbonate raw material mining in Harjumaa County, Estonia	Angela Notton, Ylo J. Systra	Tallinn University of Technology
14.20	14.40	Oil shale waste rock aggregate properties which are depending on content of oil shale	Tarmo Tohver	Tallinn University of Technology
14.40	15.00	Potential of underground minewater in Estonian oil shale mining region	Karin Robam, Ingo Valgma, Veiko Karu, Margit Kolats, Vivika Väizene, Merle Otsmaa	Tallinn University of Technology
15.00	15.20	Sustainable mining technologies for Estonian minerals industry	Aire Västriku, Ingo Valgma, Vesta Köpp	Tallinn University of Technology
15.20	15.40	Sustainability assessment methods for developing advanced mining technologies	Julia Gulevičs, Julia Šommet, Sergei Sabanov, Irena Mилашевски, Viktor Beldjaev, Viktoria Bashkite, Karin Robam	Tallinn University of Technology
15.40	16.00	Sustainable development of Estonian mineral resources for economical usage in roads construction	Riho Isküll, Julia Gulevičs, Viktoria Bashkite	Tallinn University of Technology
16.00	16.20	Amount of water in abandoned oil shale mines depending on mining technology	Veiko Karu	Tallinn University of Technology

16.20	18.00	Regular papers. Topic: Power Electronics for Micro and Smart Grids	Chairman: Dr. Indrek Roasto	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis	Co-chairman: M.Sc. Andriy Palamar	
16.20	16.40	Intelligent Transformers and Their Applications	Indrek Roasto	Tallinn University of Technology
16.40	17.00	Development of power management and control system for a PHEV charging infrastructure	Ivar Kõivastik, Elmo Pettai	Tallinn University of Technology
17.00	17.20	Control Algorithm for a Diesel Generator and UPS Based Microgrid in Different Operation Modes	Andriy Palamar, Elmo Pettai	Tallinn University of Technology
17.20	17.40	Multiport DC/DC converters for interfacing of hydrogen buffer with wind turbine	Anna Andrijanoviš, Dmitri Vinnikov	Tallinn University of Technology
17.40	18.00	An active clamping current-fed double inductor push-pull converter with current control model for fuel cell applications	Aleksandrs Andreičiks, Ingars Steiks, Leonids Ribickis	Riga Technical University
18.00	19.00	<i>Dinner</i>		
19.30	23.00	Social Session	Chairman: Viktoria Bashkite	
		Place: To be specified during Symposium	Co-chairman: Irena Milashevski	
Begin	End	Type of activity	Names of Persons	Organisation
		Thursday, 17.06.2010 Morning		
6.30	9.00	<i>Morning Gymnastics, Sauna and Breakfast</i>		
9.00	12.00	Invited lectures	Chairman: Dr. Jelena Popovic-Gerber	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis		
9.00	10.30	Power Electronics for Energy Efficiency and Sustainability	Dr. Jelena Popovic-Gerber	Delft University of Technology
10.30	12.00	Microelectronics and Design Automation for Smart Power Systems	Manfred Glesner	Darmstadt University of Technology
12.00	14.00	<i>Lunch and free time</i>		
		Thursday, 17.06.2010 Afternoon		
14.00	16.00	Regular papers. Topic: Mechatronics and Mechanical Engineering - I	Chairman: Prof. Mart Tamre	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis	Co-chairman: M.Sc. Märt Juurma	
14.00	14.20	Green aspects application in product life cycle engineering	Roman Zahharov, Viktoria Bashkite, Vadim Moseichuk, Tatjana Karaulova	Tallinn University of Technology
14.20	14.40	Energy saving types of mini UAV	Dmitri Aleksandrov, Igor Penkov	Tallinn University of Technology
14.40	15.00	Modified fingerprint method for traceability enhancement of marked products	Ahti Põlder	Tallinn University of Technology
15.00	15.20	Methods of automatic computation of a 2D homography for computer vision's aims	Dmitry Shvarts, Mart Tamre	Tallinn University of Technology
15.20	15.40	Design of Passive Bokode Marker	Märt Juurma, Johannes Ehala, Mart Tamre	Tallinn University of Technology
15.40	16.00	Statistical Process Control for Production Process Reliability Management	Marina Pribytkova, Igor Polyanchikov, Tatjana Karaulova	Tallinn University of Technology
16.00	16.20	<i>Coffee break</i>		
16.20	18.00	Regular papers. Topic: Electrical Engineering and Lighting	Chairman: Dr. Jelena Armas	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis	Co-chairman: M.Sc. Ansis Avotins	
16.20	16.40	Development Challenges of Intelligent Street Lighting System	Ansis Avotins, Ilja Galkins, Leonids Ribickis	Riga Technical University
16.40	17.00	LED Lighting Use in Street Light Design Technologies	Irena Milashevski, Jelena Armas, Raivo Teemets	Tallinn University of Technology
17.00	17.20	Discrete arithmetic models for continuous process interpretation and modeling on traffic example	Ojars Krumins, Ivars Rankis	Riga Technical University
17.20	17.40	Influence of Estonian soils to foundation earth electrode	Anton Hromov, Endel Risthein	Tallinn University of Technology
17.40	18.00	TRIZ elements in course "Buildings automation"	Aleksandr Grinko, Eduard Brindfeldt	Tallinn University of Technology
18.00	19.00	<i>Dinner</i>		
19.30	23.00	Social Session	Chairman: Lauris Bisenieks	
		Place: To be specified during Symposium	Co-chairman: Mikhail Egorov	

Begin	End	Type of activity	Names of Persons	Organisation
		Friday, 18.06.2010 Morning		
6.30	9.00	Morning Gymnastics, Sauna and Breakfast		
9.00	10.00	Invited lectures	Chairman: Dr. Janis Zakis	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis		
9.00	9.30	Electrical Engineering Education: Problems, Tendencies and Perspectives	Valery Vodovozov	Tallinn University of Technology
9.30	10.00	Quasi-Impedance Source DC/DC converter and its general control methods	Janis Zakis	Tallinn University of Technology
10.00	12.00	Regular papers. Topic: Electrical Engineering	Chairman: Prof. Valery Vodovozov	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis	Co-chairman: M.Sc. Alvis Sokolovs	
10.00	10.20	<i>PhD Thesis presentation:</i> Research and Development of Integrated AC Drive with Matrix Converter	Alvis Sokolovs	Riga Technical University
10.20	10.40	Introducing Active Exercises into Bachelor Courses of Electronics	Zoja Raud	Tallinn University of Technology
10.40	11.00	Algorithm of Precise Control of Timetable for Intelligent Embedded Devices in City Electric Transport	Andrejs Potapovs, Mikhail Gorobetz, Anatoly Levchenkov, Leonids Ribickis	Riga Technical University
11.00	11.20	Substation local PC workstation. Today and tomorrow	Igor Dmitrenko, Juhan Laugis	Tallinn University of Technology
11.20	11.40	Calculation of voltage resonance circuit with coreless electrical coil	Ivars Rankis, Edgars Dreimanis	Riga Technical University
11.40	12.00	Comparative Analysis of Toolboxes to Explore Power Converters of Electrical Drives	Mikhail Egorov	Tallinn University of Technology
12.00	14.00	Lunch and free time		
		Friday, 18.06.2010 Afternoon		
14.00	15.40	Regular papers. Topic: Mechatronics and Mechanical Engineering - II	Chairman: Dr. Tauno Otto	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis	Co-chairman: M.Sc. Mairo Hiimaa	
14.00	14.20	Reconfigurable Battery Pack for Unmanned Ground Vehicle	Mairo Hiimaa, Mart Tamre	Tallinn University of Technology
14.20	14.40	Challenges and prospective of maintenance in SMEs Collaborative Network	Igor Polyantchikov, Pribytkova Marina, Eduard Shevtshenko	Tallinn University of Technology
14.40	15.00	Monitoring of manufacturing machinery using smart dust applications	Tanel Aruväli, Risto Serg, Tauno Otto, Jürjo Preden	Tallinn University of Technology
15.00	15.20	Development of shooting simulator intelligent control system	Juris Kiploks, Ivars Rankis	Riga Technical University
15.20	15.40	Synergetics – based approach to engineering design	Dmitri Loginov	Tallinn University of Technology
15.40	16.00	Biopower fluidizer production of electric power by alternative method	Volodymyr Lypnysky	Ternopil State Technical University
16.00	17.30	Invited lecture	Chairman: Prof. Juhan Laugis	
		Place: Conference room, 6th floor of Building 3 of SPA Tervis		
16.00	17.30	Integrated Approach in European Transport Research -Decarbonisation and Greening the Transport System	Assoc. Prof. Wolfgang H. Steinicke	EURNEX Association, Germany
17.30	20.00	Free time		
20.00	23.00	Closing and Awards Ceremony, Gala Dinner. Place: Buffet Room, 1st floor of Building 1 of SPA Tervis	Chairmen: Prof. Juhan Laugis Prof. Johannes Steinnbrunn	
		Saturday, 19.06.2010 Morning		
6.30	9.00	Morning Gymnastics, Sauna and Breakfast		
9.00		Bus departure from Pärnu Tervis SPA Hotel		
9.00	10.00	Pärnu Bus Trip		
	12.00	Arrival to Tallinn >> Rävåla 13 >> TTU, Ehitajate tee 5 >> Uniquestay Mihkli Hotel, Endla 23		